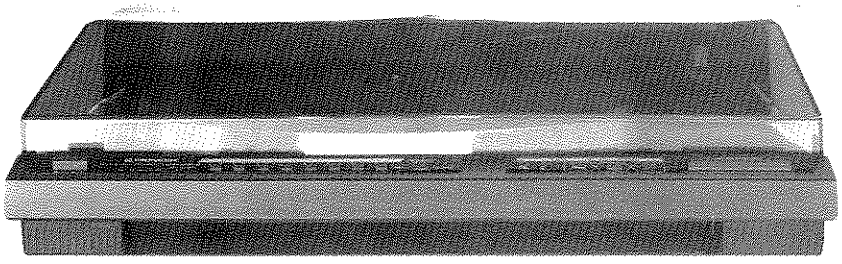
Master

Operating Instructions

STEREO TURNTABLE

PL-L70



Thank you for buying this Pioneer product.
Please read through these operating instructions and then you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In accordance with the power and voltage requirements of differing areas, the following model names are used to designate models with differing electrical specifications.

Models	Line voltage
HEM, HB, HP, HEZ, NE, NEZ	a.c. 220, 240 volts ~ (Switchable voltage)
WE, WB, WP	a.c. 220—240 volts ~
S, S/G, SS	AC 110, 120, 220, 240 volts (Switchable voltage)
D, D/G	AC 120, 220, 240 volts (Switchable voltage)
R, R/G	AC 110—120, 220—240 volts (Switchable voltage)
KU, KC	AC 120 volts
YP, YB	a.c. 240 volts ~

NOTES:

- *The model names are stamped on the packing case.*
- *These operating instructions are prepared on the basis of the HEM model, and they can be used for other models. Although the design of the power plug and the power outlet shown may differ from the actual one, the operating procedures are the same.*

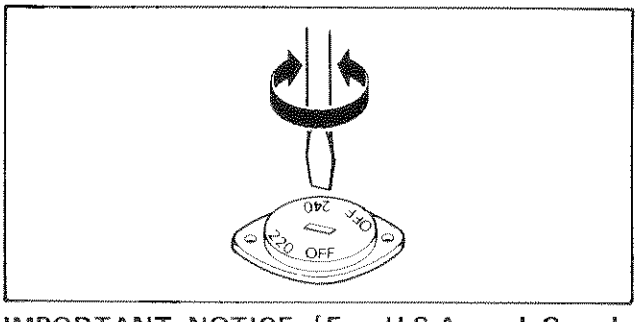
WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

LINE VOLTAGE SELECTOR SWITCH

[only multi voltage models are provided with this switch but U.S.A. and Canada models are not provided with this switch]

The line voltage selector switch is located on the top of the cabinet of this turntable. Before your turntable is shipped from the factory, the switch is set to the power requirements of the turntable's destination. Check that it is set properly before plugging the power cord into the outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switch as follows:

- Provide yourself with a medium-sized screwdriver. Insert the tip of the screwdriver into the groove of the selector switch and turn it so that the power voltage marking of your area points to the arrow.



IMPORTANT NOTICE [For U.S.A. and Canada models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep in a secure area. This is for your security.

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PIONEER®

SAFETY INSTRUCTIONS

READ INSTRUCTIONS – All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The operating instructions should be retained for future reference.

HEED WARNING – All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS – All operating and use instructions should be followed.

WATER AND MOISTURE — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION — The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING – The appliance should not be mounted to a wall or ceiling.

VENTILATION — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

POLARIZATION – If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

CLEANING – The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES — An outdoor antenna should be located away from power lines.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE – The appliance should be serviced by Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped, or the enclosure damaged.

SERVICING – The user should not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, contact the nearest Pioneer authorized service center.

OUTDOOR ANTENNA GROUNDING – If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.

In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

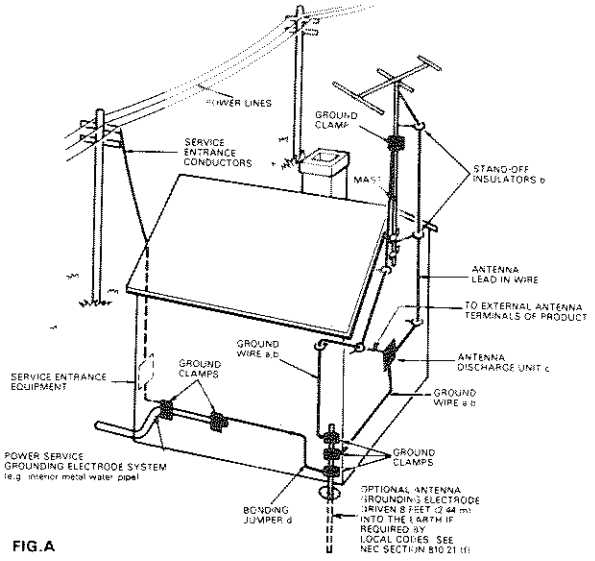

POWER LINES
GROUND CLAMP
SERVICE ENTRANCE CONDUCTORS
MAST
STAND-OFF INSULATORS b
ANTENNA LEAD IN WIRE
TO EXTERNAL ANTENNA TERMINALS OF PRODUCT
GROUND WIRE a,b
GROUND CLAMPS
SERVICE ENTRANCE EQUIPMENT
ANTENNA DISCHARGE UNIT c
GROUND WIRE a,b
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (e.g. interior metal water pipe)
BONDING JUMPER d
OPTIONAL ANTENNA GROUNDING ELECTRODE (DRIVEN 8 FEET (2.44 m) INTO THE EARTH IF REQUIRED BY LOCAL CODES. SEE NEC SECTION 810-21 (f))

FIG.A

a) Use No. 10 AWG (5.3 mm²) copper, No. 8 AWG (8.4 mm²) aluminum, No. 17 AWG (1.0 mm²) copper-clad steel, bronze wire, or larger as ground wire.

b) Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.

c) Mount antenna discharge unit as closely as possible to where lead-in enters house.

d) Use jumper wire not smaller than No.6 AWG (13.3 mm²) copper or equivalent when separate antenna grounding electrode is used.

IMPORTANT 1

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT 2

If the apparatus is fitted with AC main power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last, make sure that the power switch is off. Disconnect the wall plug when the equipment is not in (regular) use, e.g. when on vacation.

The power switch is secondary connected and therefore does not separate the unit from main power in STAND-BY position.

FOR USE IN THE UNITED KINGDOM

Equipment sold in the U.K. is not supplied with a power plug.

The wires in this mains lead are coloured in accordance with the following code:

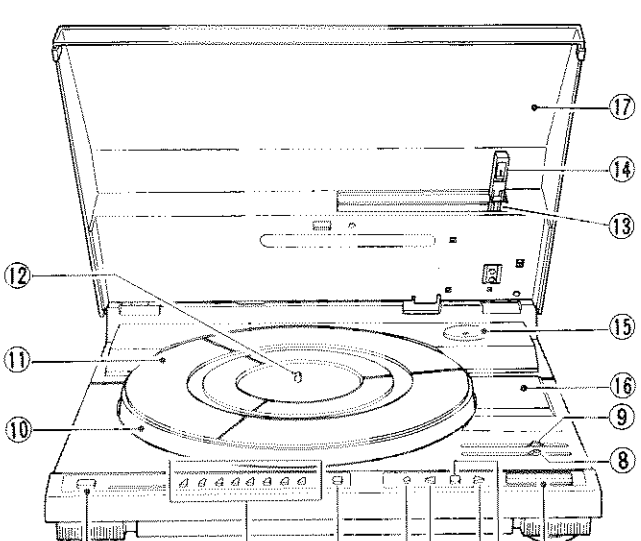
Blue:	Neutral
Brown	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

PANEL FACILITIES



① POWER switch

Press this switch to turn the power on and off.
[ON] (depressed position) : Power is switched ON.
[STAND-BY] (released position): Power is switched OFF.

② PROGRAM switches/indicator

- Press these switches in the desired sequence from [1] through [8] when programming the order in which the tracks are to be played. The tracks are programmed in the order in which the switches were pressed, and auto play or repeat play is performed.
- The numbers [1] through [8] indicate the order of the tracks on the record (for instance, the [2] switch corresponds with the second track). During programmed playback, the program indicator corresponding to the track presently being played will flash.

③ CLEAR switch

This switch is pressed in order to clear the program.

④ REPEAT switch/indicator

Press this switch so that the indicator lights for repeat play.

⑤ LOCATE/SKIP switches (SKIP)

Use these switches to start manual playback, or during playback to change the track being played. When the switches are pressed, the tonearm will move to the right or left.
[◀◀]: Tonearm moves to left. During programmed play, moves to the next programmed track. If pressed multiple times, moves ahead the number of tracks corresponding to the number of times the switch is pressed.
[▷▶▶]: Tonearm moves to right. During programmed play, moves back to the beginning of the track presently being played. If pressed multiple times, moves back the number of tracks corresponding to the number of times the switch is pressed.

NOTE:
When this switch is used during programmed play, do not allow more than a 1-second interval between presses.

⑥ ARM ELEVATION switch(UP)/ indicator

- Use the switch for manual play.
- Use the switch to suspend record play temporarily.
- Use the switch when changing the tracks during manual play.

[UP] indicator lights:
The tonearm rises (the stylus moves away from the record).
[UP] indicator goes out:
The tonearm descends (the stylus is lowered onto the record).

⑦ START/STOP switch

Depress this switch when starting auto play or when stopping play.

⑧ SPEED switch

Set this switch in accordance with the speed of the record which is to be played.
[AUTO]: Automatically sets rotation speed in accordance with the size of the record: Rotates at 33-1/3 rpm with 30 cm and 25 cm records. Rotates at 45 rpm with 17 cm records.
[33]: Rotates at 33-1/3 rpm
[45]: Rotates at 45 rpm

⑨ SENSOR switch

Depending on the type of record being played, this switch may be used to adjust the sensitivity at the time of programmed play.

Normally the switch should be left in [N] position.

[N]: For normal records.
[H]: For records with very narrow intervals between tracks.
[L]: For records with wide sound-groove pitch.

⑩ Platter

⑪ Rubber mat

⑫ Platter shaft

⑬ Tonearm

⑭ Cartridge (PC-301)

⑮ EP adapter

This is used when playing records with a "large center hole".

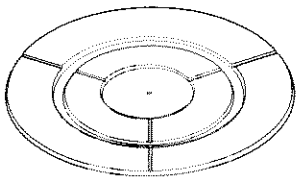
⑯ Cabinet

⑰ Dust cover

OPERATIONS BEFORE USE

STEP 1 ASSEMBLING THE TURNTABLE

(1) Checking the accessories and mounting parts.

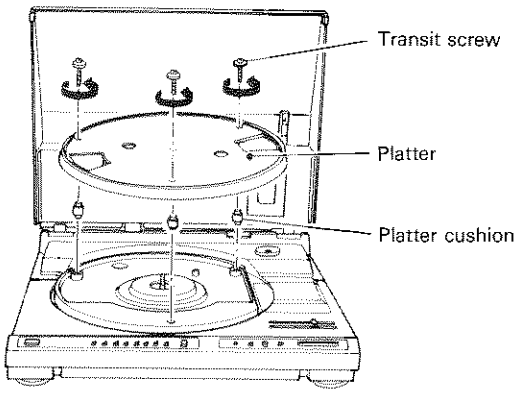


Rubber mat

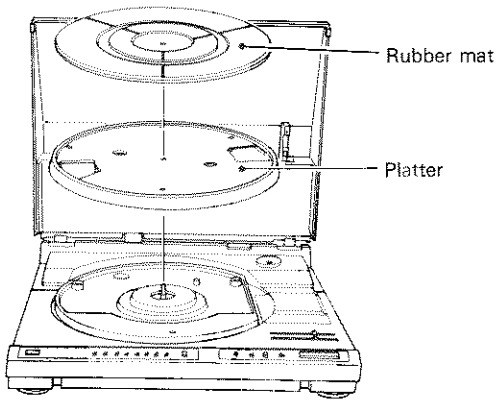
EP adapter

(2) Removing the transit screws.

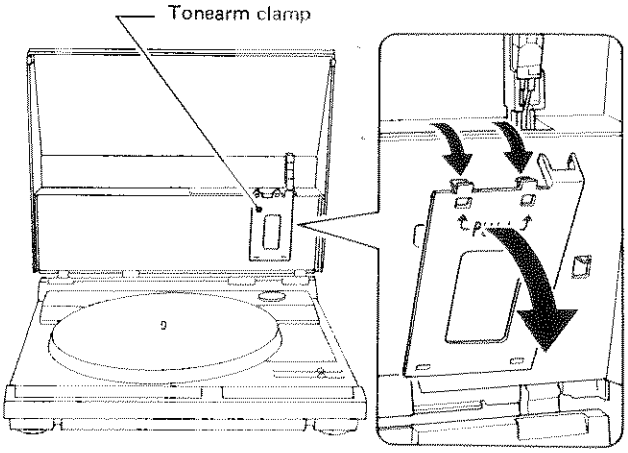
Using a Phillips head screwdriver, rotate the transit screws (3) in the direction of the arrow in the figure and remove the platter and the platter cushions.



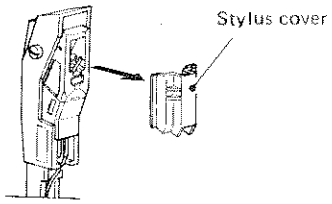
(3) Mounting the platter and rubber mat.



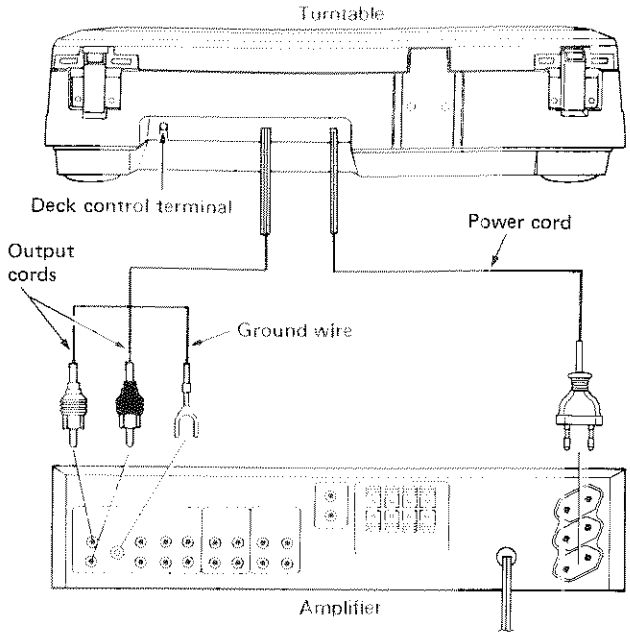
(4) Remove the tonearm clamp.



(5) Remove the stylus cover.



STEP 2 CONNECTING THE TURNTABLE AND AMPLIFIER



Connecting the ground wire

Attach the metal fitting onto the amplifier ground (GND) terminal.

Connecting the output cords

Insert the plugs into the amplifier's "PHONO" input terminals.

- Connect the white plug to the left (L) channel and the red plug to the right (R) channel.
- Insert the plugs as far as they will go.

Connecting the power cord

Connect the power plug to the auxiliary "AC OUTLET" on the amplifier or to a household power outlet.

Deck control terminal

Connect this terminal to the synchro-recording cord of the Pioneer tape deck (CT-Z99W). For details, refer to the section "Synchro Recording."

AFTER HAVING CARRIED OUT STEPS 1 THROUGH 2, READ THROUGH THE FOLLOWING CHECKPOINTS.

■ **Incorrect connections at installation will lead to trouble.**

- If the equipment is connected improperly, no sound will be heard. If the output cord plugs are not inserted as far as they will go or if the ground wire is not connected, a humming noise will be heard through the speakers.
- If the turntable is installed at an angle, the tonearm will slide on the record and the sound will be distorted. If vibrations are transmitted to the turntable, the sound may be discontinuous or it may tremble, and in some cases howl (a prolonged wailing sound from the speakers) may be heard.

■ **Connection must be made to the amplifier's PHONO MM terminals.**

The cartridge supplied with this unit is an MM type. Since it has a high output, it should be connected to the MM (moving magnet) terminals.

■ **The connecting cords should be given some slack.**

Check that none of the connecting cords are pulled taut after they have been connected. Tautness may lead to cord disconnections and howl.

■ **The load impedance of the accessory cartridge is 50 kilohms.**

If your stereo amplifier is provided with a selector switch for the cartridge load impedance, set this switch to the cartridge's rated value.

■ **Do not expose to direct sunlight or extremely bright incandescent light bulbs, etc.**

Because this turntable utilizes an optical scanning system, other strong light sources may also affect the proper operation of the turntable.

RECORD PLAY

RECORD PLAY PROCEDURE (AUTO PLAY)

(1) Set the stereo amplifier to the record play mode.

For details, refer to the Operating Instructions of the stereo amplifier.

(2) Open the dust cover.

(3) Press the POWER switch to turn on the power.

(4) Place the record onto the platter.

NOTE:

- *When playing specially colored (transparent, red, yellow, etc.) records, use manual play.*
- *When playing records other than 30 cm (12"), or 25 cm (10") on 33-1/3 rpm, or other than 17 cm (7") records on 45 rpm, set the record speed by pushing the speed switch:*
  For 33-1/3 rpm records, set to the [33] position.
  For 45 rpm records, set to the [45] position.

(5) Close the dust cover.

(6) Press the START/STOP switch to start play.

Auto play may not be possible with some specially colored records. In this event, press the LOCATE/SKIP switch and play the record manually.

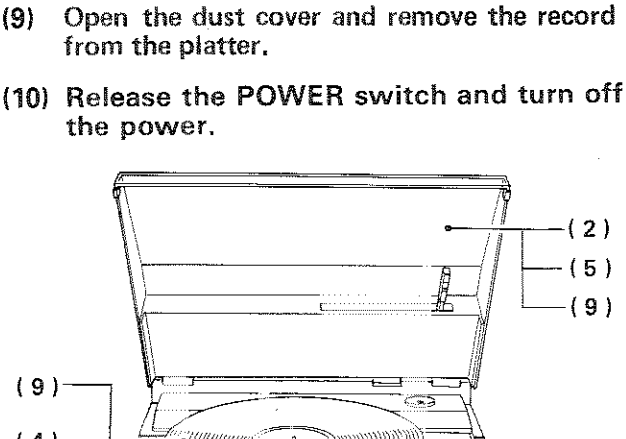
(7) Adjust the volume and tone using the controls on the stereo amplifier.

(8) Play ends.

The tonearm will automatically return to its rest, and the turntable will stop rotating.

(9) Open the dust cover and remove the record from the platter.

(10) Release the POWER switch and turn off the power.



MANUAL PLAY

Proceed with manual play in the following circumstances:

- **When starting play at any track except the first.**
- **When the size of the record is not standard which makes auto play impossible.**

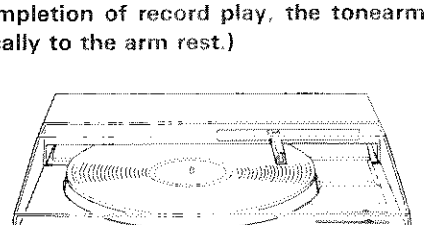
(1) Perform steps (1) through (5) of the RECORD PLAY PROCEDURE.

(2) Press the LOCATE/SKIP switch to move the tonearm over the record.

(3) Press the ARM ELEVATION switch and start record play.

(4) Adjust the volume and tone using the controls on the stereo amplifier.

(Upon completion of record play, the tonearm returns automatically to the arm rest.)



REPEAT PLAY

One side of the record is repeatedly played automatically.

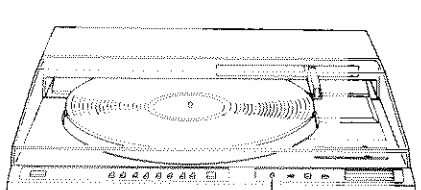
(1) Perform steps (1) through (6) of RECORD PLAY PROCEDURE and start auto play.

(2) Press the REPEAT switch to the ON position.

(3) Play ends. Play is repeated.

When the last track is played, the tonearm automatically returns to the first track and play is repeated.
This operation will be repeated up to 8 times (during the 8th playback, the indicator will flash to indicate the final playback).

NOTE:
During programmed play, the tracks will be played repeatedly in their programmed order. Also, when the final programmed track is played back, the player will be ready to accept new programming for programmed play. If the REPEAT switch is set to [ON] at this time, the REPEAT indicator will light, but repeat play will not begin. To start repeat playback, press either the START/STOP switch, or the PROGRAM switch.



■ How to release repeat play.

Press the REPEAT switch once again; the repeat play will be cancelled (the indicator light will go out), and the turntable will revert to its AUTO PLAY function.
Pressing the START/STOP switch in the middle of play will also cancel the repeat function.

OPERATIONS FOR STOPPING PLAY

When stopping play in the middle of a record

(1) Press the START/STOP switch.

Several seconds after this switch is set, the tonearm automatically returns and the platter stops rotating.

(2) Release the POWER switch to the STAND-BY position.

When suspending play temporarily

(1) Press the ARM ELEVATION switch.

The stylus rises from the surface of the record and play stops (but the platter continues rotating).

(2) Press the ARM ELEVATION switch again.

The stylus descends onto the record and play begins again.

PROGRAMMED PLAY

- Programmed record play is a mode in which you can vary the sequence in which you listen to the tracks on the record.
- A maximum of 8 tracks can be programmed for up to 15 total plays.

(1) Perform steps (1) through (4) of the RECORD PLAY PROCEDURE.

(2) Select the SENSOR switch.

N: For programmed play of normal records.
H: For programmed play of records having narrow intervals between the tracks.
L: For programmed play of records having a wide sound groove pitch.

(3) Press the PROGRAM switches in the desired track order.

① Press the switch corresponding to the track you wish to be played back first. The player will begin scanning the number of tracks on the record, and when scanning is completed, playback of the first programmed track will begin.
② For the 2nd and following programmed tracks, press the switches in the order of playback desired. Up to 8 tracks can be memorized for up to 15 total plays. During programmed play, the program indicator corresponding to the currently playing track will flash.

NOTE:
If you make a mistake in selecting your program, or wish to otherwise change it, push the CLEAR switch. This will clear all programs and so it will be necessary to reprogram from the beginning.

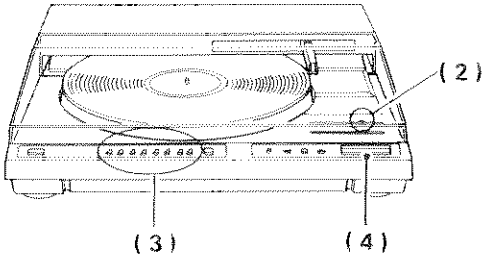
(4) Play is concluded.

- **With auto play**

When the last track which has been programmed has been played, the platter stops rotating and the tonearm returns.

- **With repeat play**

When the last track to be programmed has been played, the tonearm returns to the first programmed track and programmed play is repeated. This operation will continue for up to 8 repeats of the programmed play, or until the REPEAT play switch is set to OFF or the START/STOP switch is pressed.



■ Programmed play will be cleared when:

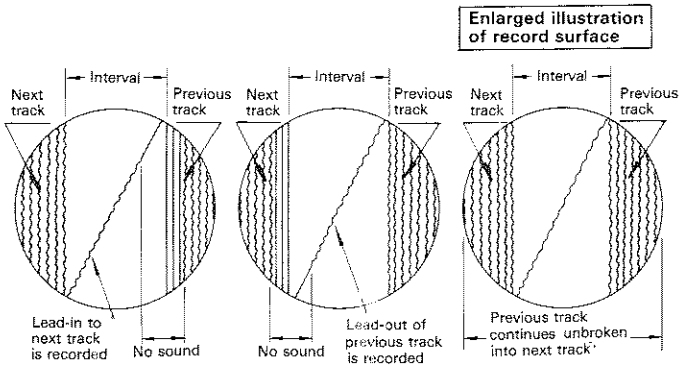
- The START/STOP switch is pressed and play is stopped.
- The CLEAR switch is pressed (if pressed during programmed play, the turntable function will revert to AUTO PLAY).
- The last programmed track has completed play.

NOTES:
- *When playing on programmed play, do not press any program number switches higher than the number of tracks actually on the record. Pressing higher numbered program switches will cause the turntable to search for the lead-out grooves on the inner margin of the record, thus causing mis-programming.*
- *If the CLEAR switch is pressed while the turntable is operating on programmed play, the turntable function will revert to auto play, and any further programmed tracks will not be played. Thus, the CLEAR switch should be pressed at the time you select your programs, before playing.*

PLAYING SPECIAL RECORDS

Since this turntable faithfully performs automatic play according to the structure of the record, some special records may cause the automatic mechanism to operate in the following ways. This is not a malfunction.

(1) Records with recorded material between tracks

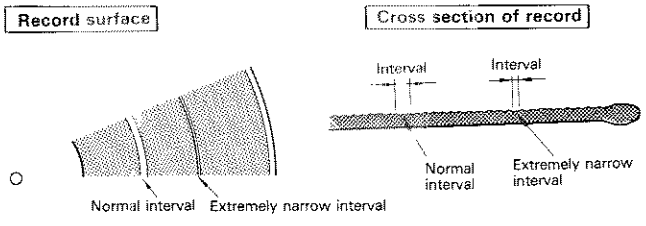


Operation

- **Playback may begin from the last of the previous track or midway into the next track.**

NOTE:
In addition to condition (1), this operation may occur with any record if the stylus descent position is incorrectly adjusted. In this event, adjust the stylus descent in accordance with the procedures listed in the section "Adjusting the stylus descent position."

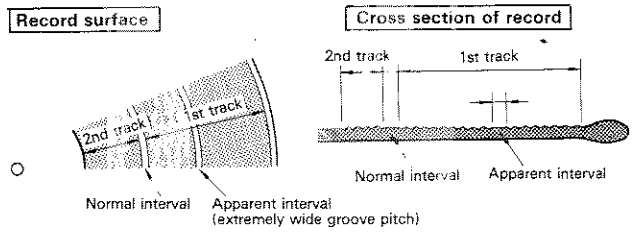
(2) Records with an extremely narrow interval between tracks



Operation

- The interval will not be recognized by the turntable, and the stylus will not descend at that position.
- The previous track may be included in that interval, or play may begin from midway into the next track.

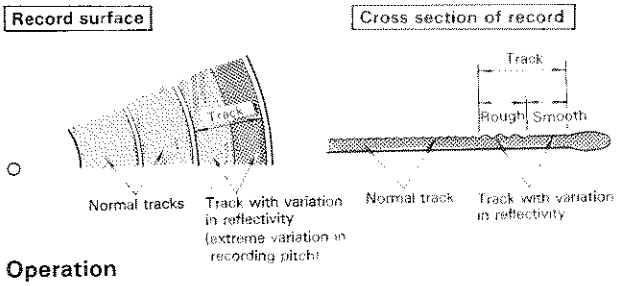
(3) Records with an apparent interval within a track.



Operation

- The turntable will assume the wide groove is a normal interval, and the stylus will descend onto the record at that point.
- Play will end at that point.

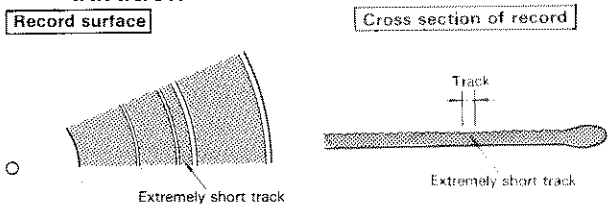
(4) Records with an extreme variation in gloss (reflectivity) between parts.



Operation

- The turntable will detect the area as a separate track, and the stylus will descend at the point the reflectivity changes.
- Play will end at that point.

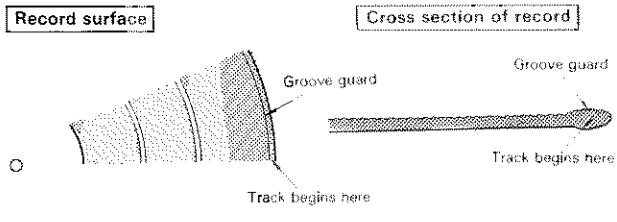
(5) Records with tracks of extremely short duration



Operation

The turntable will indicate less than the actual number of tracks and the short track will be skipped.

(6) Records with tracks recorded all the way to the outer periphery (groove guard).



Operation

- Playback will begin from midway in the track.

When playing the kinds of records listed above, either change the order of programmed tracks, or use auto, or manual play. In addition, the following kinds of records as well should be played using auto or manual play:

- Severely warped records.
- Severely dirty or scratched records.
- Specially colored records (transparent, red, yellow, etc.).

LOCATE, SKIP OPERATIONS

■ Locate Operation

Use this operation to move the stylus to a chosen position during play.

① Press the LOCATE/SKIP switch (◀◀ or ▷▶) and move the tonearm to the desired position.
② Press the tonearm elevation switch to begin playback.

■ Skip Operation

Use this function during programmed play to move ahead to the next programmed track, or backwards to previous tracks.

- When the (◀◀) switch is pressed once, the stylus will be moved to the next programmed track. If the switch is pressed repeatedly within a 1-second interval, the stylus will move forward the number of tracks corresponding to the number of times the switch is pressed.
- When the (▷▶) switch is pressed once, the stylus will move back to the beginning of the presently playing track. If pressed repeatedly within a 1-second interval, the stylus will move backward the number of tracks corresponding to the number of times the switch is pressed.

SYNCHRO RECORDING

When the deck control terminal on this turntable is connected to the player control terminal on the Pioneer tape deck (CT-Z99W), the turntable's operation will be linked to the recording operation of the tape deck. This function is convenient when recording the contents of a record onto cassette tape.

- This function operates with auto play, programmed play, and repeat play.
- The necessary connecting cord is an accessory of the tape deck.
- For operation, refer to the Operating Instructions accompanying the tape deck.

ADJUSTING THE STYLUS DESCENT POSITION

Make adjustments in the following situations:

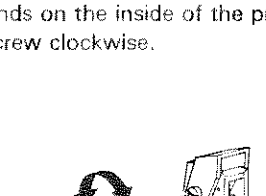
- When the stylus does not descend properly between tracks with normal programmed play (with the SENSOR switch at the "N" position for ordinary records).
- When the stylus has been replaced.

(1) Perform steps (1) through (4) of RECORD PLAY PROCEDURE. (A normal 30 cm LP record is placed on the platter).

(2) Perform programmed play (not track 1) and check how far the stylus deviates.

(3) Rotate the headshell adjusting screw as follows, using a small slot-head screw-driver, in accordance with the amount of deviation:

- Stylus descends on the outside of the programmed track: Rotate the screw counterclockwise.
- Stylus descends on the inside of the programmed track: Rotate the screw clockwise.



(4) Check the adjustments.

After making the above adjustments, test the programmed play function (skipping the first track) to make sure the stylus descends properly between each track on the record. If the descent position is still off, perform steps (3) through (4) again.

LOCATE, SKIP OPERATIONS

■ Locate Operation

Use this operation to move the stylus to a chosen position during play.

① Press the LOCATE/SKIP switch (◀◀ or ▷▶) and move the tonearm to the desired position.
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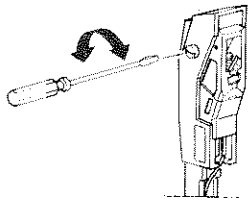

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MAINTENANCE

REPLACING THE STYLUS

- **The service life of the stylus on the cartridge supplied ranges from 800 to 1,000 hours. (If the stylus is used for 1 or 2 hours every day, it will last for one or two years.)**

Using a worn or damaged stylus can damage the record and distort the sound reproduced. Remember to replace the stylus at the earliest possible date.

- **Always use the PIONEER "PN-301" as the replacement stylus.**

The cartridge used in this turntable was developed by PIONEER and so only the specially designed replacement stylus can be used. It can be purchased at your PIONEER dealer.

- **Always obtain the genuine PIONEER replacement stylus.**

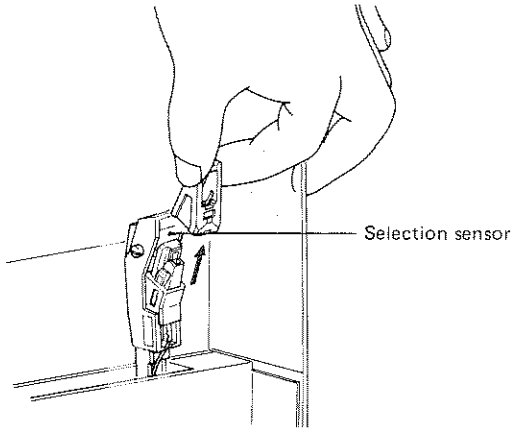
PIONEER is not able to safeguard against deterioration in performance or possible mechanical trouble if a replacement stylus of another make is used. A genuine PIONEER replacement stylus always comes with the PIONEER mark. Check that this mark is on the stylus before purchasing it.

STYLUS REPLACEMENT PROCEDURE

Turn down the stereo amplifier's volume control to the lowest position for this operation.

1. Remove the stylus from the cartridge.

Hold the stylus holder and pull the stylus gently in the direction indicated by the arrow.



Keep the selection sensor placed at the headshell clean of dust. Clean it carefully using a soft brush.

2. Attach the new stylus holder (replacement stylus) to the cartridge.

MAINTAINING YOUR RECORDS

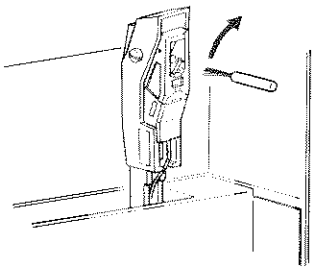
- **Use a good quality record cleaner**

Cleaning records with a dry cleaner (velvet or nylon brush) may charge the records with static and generate noise. Wet cleaners and static removal sprays are more effective in getting rid of dust.

MAINTAINING THE STYLUS

- **Use a soft brush**

Move the brush toward you to clear off the dust and dirt. Do not use your finger since this will damage the stylus.



- **When the dirt cannot be removed by a brush**

Obtain some stylus cleaner from your dealer and remove. Do not allow any of the liquid to come into contact with the plastic parts as they may dissolve.

CONDENSATION

When this turntable is brought into a warm room from previously cold surroundings or when the room temperature rises sharply, condensation may form inside and the unit may not do full justice to its performance. In cases like this, allow the unit to stand for about an hour or raise the room temperature gradually.

SPECIFICATIONS

Motor and Turntable

Drive System ..... Direct-drive
Motor ..... Quartz PLL Hall motor
Turntable Platter .....304 mm diam. aluminum alloy die-cast
Speeds ..... 33-1/3 and 45 rpm
Wow and Flutter ..... Less than *0.012% (WRMS)
0.025% (WRMS)
± 0.035% WTD Peak (DIN)
Values marked with an "*" designate the wow and flutter for the motor, and do not include the cartridge or tonearm load.
Signal-to-Noise Ratio ..... More than 80 dB (DIN-B)
(with Pioneer cartridge model PC-301)

Motor characteristics
Start up ..... Less than 1/3 revolution
Speed variation ..... Less than 0.002%
Drift ..... Time: 0.0003%/h
Temp: 0.003%/°C

Tonearm

Type ..... Integrated straight tonearm

PC-301 Specifications

Type ..... IM type
Stylus ..... 0.3 x 0.7 mil diamond (PN-301)
Output Voltage ..... 2.5 mV
(1 kHz, 5 cm/s LAT. Peak)
Tracking Force ..... 1 g to 1.5 g (proper 1.25 g)
Frequency Response ..... 10 to 33,000 Hz
Recommended Load ..... 50 kΩ
Weight ..... 4 g

Subfunctions

Auto lead-in, auto return, auto cut, repeat, arm elevation, program search play, manual play, skip, auto disc size selector, record detection, auto speed selector

Miscellaneous

Power Requirements
HEM, HB, HP models .....AC 220 V/240 V~ (switchable), 50, 60 Hz
KU, KC models ..... AC 120 V, 60 Hz
S, S/G models .....AC 110V/120 V/220 V/240 V~ (switchable), 50, 60 Hz

Power Consumption
HEM, HB, HP models ..... 15 W
KU, KC models ..... 14 W
S, S/G models ..... 10 W
Dimensions ..... 420 (W) x 108 (H) x 365 (D) mm
16-1/2 (W) x 4-1/4 (H) x 14-3/8 (D) in.
Weight ..... 5 kg/11 lb

Accessories

EP Adapter 1
Operating Instructions 1

NOTE:
Specifications and design subject to possible modification without notice, due to improvements.

This product is manufactured to comply with the radio interference requirements of EEC Directive 76/889/EEC & 82/499/EEC.

INFORMATION TO USER [FOR U.S.A. MODEL]

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacture's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate this component with respect to the receiver
- move this component away from the receiver
- plug this component into a different outlet so that component and receiver are on different branch circuits

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Comission helpful:
"How to Identify and Resolve Radio TV Interference Problems"
This booklet is available from the US Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

The above instructions apply only to units which will be operated in the United States.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check out the points below. Sometimes, the trouble may lie in another component. Investigate the other components and electrical appliances being used.
If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Possible cause	Remedy	Page no.
No power.	• Power plug is disconnected from outlet.	• Connect to stereo amplifier or wall outlet.	5
	• Stereo amplifier's power switch is OFF when unit's power plug has been plugged into SWITCHED outlet coupled to stereo amplifier's power switch.	• Set stereo amplifier's power switch to ON.	—
No sound.	• Improper output cord connections.	• Connect properly to stereo amplifier.	5
	• Dirty output cord pin plugs or stereo amplifier input jacks.	• Clean away dirt.	—
	• Improper cartridge and stylus mounting.	• Secure stylus and cartridge properly.	10
	• Incorrect stereo amplifier operation.	• Check positions of stereo amplifier's switches.	—
Noise or scratch noise. (crackling sound is heard)	• Dust or dirt on record surface.	• Clean record with cleaner.	10
	• Warped record or scratches on record.	• Replace record.	—
Intermittent sound.	• Dirty output cord pin plugs or stereo amplifier input jacks.	• Clean away dirt.	—
Distorted sound.	• Dust or dirt on cartridge stylus.	• Clean stylus with brush.	10
	• Worn cartridge stylus.	• Replace stylus.	10
	• Dust or dirt on record surface.	• Clean record with cleaner.	10
	• Warped record or scratches on record.	• Replace record.	—
Howl (prolonged wailing sound heard through speakers when volume is turned up during play).	• Vibrations from speaker systems are being transmitted from floor to the record or cartridge.	• Place the turntable at a distance from speakers.	—
		• Place the turntable on a sturdy stand.	—
	• Sound pressure of speaker systems is being transmitted to cartridge directly.	• Try changing installation location of turntable.	—
Humming noise (heard from speaker systems).	• Improper output cord or ground wire connections.	• Connect output cords and ground wire properly to stereo amplifier.	5
	• Improper cartridge and stylus mounting.	• Secure stylus and cartridge properly.	10
	• Effects of magnetic flux leakage being felt from stereo amplifier's power transformer, etc.	• Try changing position of stereo amplifier and turntable.	—
Odd sound tempo.	• SPEED switch position does not match rated record speed.	• Set switch to position corresponding to rated record speed (33 or 45).	6
Stylus does not descend onto correct position during play.	• Stylus descent position deviates.	• Adjust position properly.	9
	• Special record is being used.	• Replace record.	—
	For details, refer to "PLAYING SPECIAL RECORDS".	• Use AUTO PLAY, MANUAL PLAY, or change the order of selected tracks (for programmed play).	6
		• Adjust sensitivity by using SENSOR switch (for programmed play).	7

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS [USA] INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
TEL: [800] 421-1404, [800] 237-0424
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium TEL: 03/775-28-08
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia
TEL: [03] 580-9911

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